the corona is cosmical, solar, and the denser part of the zodiacal light,* might expect the latter rather to show the corona's green line, viz., 1474 (Kirchhoff).

This, however, the zodiacal light, according to M. Angström, does not. Is the zodiacal light then telluric and auroral, not solar and coronal? The measurement of the *place* of its green line should settle at once this most important and extensive physical question; and if the line be at any time visible at all, the large spectral distance between 1249 and 1474 (Kirchhoff's scale) would be sensible in the simplest apparatus. Yet, in these high latitudes the zodiacal light is always so extremely faint, so frequently altogether masked by auroral glows, and as yet, for its spectrum, depending, so far as I know, on only one observer, and he residing in quite an aurora-ridden part of the world, that it would seem to be a perfectly fair question to ask, "if any one else, besides the distinguished Natural Philosopher at Upsala, has observed the spectrum of the zodiacal light; and if so, how and where?"

C. Piazzi Smyth

Royal Terrace, Edinburgh, April 14

* [We venture to doubt this.—Ed.]

Aurora by Daylight

I see that more than one of your correspondents in December numbers dispute the possibility of an aurora being seen by daylight. It doubtless is a rare occurrence, but two cases of the kind have come under my notice.

In December last my son saw what he took to be an aurora a little before sunset. He was at the time about three miles from home, and he had it constantly before him during his walk homewards, and saw it more and more developed as the darkness increased, so that there can be no doubt of the appearance before sunset being identical with what proved to be, as the night advanced, one of the most brilliant displays which we have had during a year very prolific in auroras. He states that after the sun had set, but whilst it was still quite light, the bright rose colour which distinguished that aurora was distinctly visible. The streamers that night proceeded from all parts of the heavens, meeting almost in the zenith, but what is very unusual, they were very much brighter in the east and south-east than in any other direction, which is probably the reason why they were so clearly visible whilst the sun was in the opposite quarter.

The other case came under my own observation in September 1849. Immediately after the sun had set, with a perfectly clear sky, I noticed three slightly diverging beams of light on the western horizon. One might almost have taken them for those beams from a setting sun which one sees much more often in pictures than in nature, had it not been that they did not emanate exactly from the spot where the sun had set, that they had an evident motion to the southward, and that two of them extended to the zenith, and finally down to the eastern horizon. It proved to be the most symmetrical auroral arch I ever saw. The perfect horizon I had to the west, and the straightness of its well-defined edges, joined to the facility which the double arch afforded of measuring the distance between the middle of each, immediately struck me as affording an opportunity of calculating its elevation above the earth, upon the supposition that the tapering away towards the horizon was the effect of perspective alone. I took steps therefore to measure the apparent width in the horizon and overhead, and also its rate of motion to the southward in both places, and by both methods the result was about 8 to 1. From these data, upon the assumption that it was a double ring everywhere equidistant from the earth's surface, and moving parallel to itself, I calculated the elevation, which came out 97 miles, and its rate of motion to the southward 656 miles per hour, the auroral meridian being N. 13° 15′ E., and the inclination of the plane of the arch to my horizon 94° 55′. These figures, whatever reliance can be placed on them, have nothing to do with the present question further than to show how bright the object must have been thus to attract my attention, and that, although the sun had set, there was still daylight enough for me to see the second hand of my watch, and to note the objects on an horizon some three or four miles distant, by which I measured the progress of the base of the arch, and the bearings of which I took the next day. Before it became really dark, the arch had become irregular, and detached streamers showed themselves in the usual form.

Ottawa

John Langton

UNIVERSITY INTELLIGENCE

OXFORD

Queen's College.—Mr. Charles Thomas Blanchard of Clifton College, was elected to a Scholarship in Natural Science in this College on Saturday last. *Proxime accessit*—Mr. William Percy Ashe, of Magdalene College School.

Corpus Christi College.—There will be an Election to a Natural Science Fellowship in this College at the beginning of next Michaelmas Term. The examination will be specially in Chemistry, and will commence on Monday, Oct. 9 Candidates must have passed all the examinations required by the University for the degree of B A., and must not be in possession of any benefice or property which would disqualify for retaining a Fellowship. Candidates are requested to communicate with the President, either personally or by letter, at their convenience, before the end of Act Term.

Natural Science Lectures

The following Lectures will be given in addition to those noticed in our number for last week :—

Chemistry. Mr. Wyndham on the Elements of the Nitrogen, Boron, and Carbon groups, and their Combinations, on Thursdays and Saturdays at 11 A.M., at the University Museum.

Physiology. On General Physiology, with special reference to the microscopical anatomy and physiological chemistry of the elementary tissues. By Mr. Chapman. Mondays, Wednesdays, and Fridays, at 10 A.M, at the Magdalen College Laboratory.

Physics. On Elementary Mechanics and Hydrostatics. By Mr. Abbay. These lectures are free by mutual arrangement to members of these colleges at which either of these gentlemen is a lecturer, viz, to members of Merton, Magdalen, Jesus, and Wadham Colleges.

CAMBRIDGE

The following lectures in Natural Sciences are to be delivered at Trinity, St. John's, and Sidney Sussex Colleges during Easter term, 1871 :—

On Heat. (For the Natural Sciences Tripos.) By Mr. Trotter, Trinity College, Monday, Wednesday, Friday, at 10, commencing Friday, April 28.

On Electricity and Heat. (For the Special Examination of the B.A. Degree.) By Mr. Trotter, Trinity College, Tuesday, Thursday, Saturday, at 10, commencing Tuesday, April 25. Students of Colleges other than Trinity, St. John's and Sidney, can be admitted on payment of a fee.

On Chemistry. By Mr. Main, St. John's College. Tuesday, Thursday, Saturday, at 12, commencing Thursday, April 27. Attendance on these lectures is recognised by the University for the certificate required by medical students previous to admission for the first examination for the Degree of M.B.

Instruction in Practical Chemistry will also be given.

On Geology. By Mr. Bonney, St. John's College.

1. Palæontology. Wednesdays and Fridays, at 9, commencing Friday, April 28.
2. Lyell's Principles of Geology. Tuesdays and Thursdays, at 9, commencing Thursday, April 27.
3. Elementary Lectures. Tuesdays and Thursdays, at 11, commencing Thursday, April 27. Students of other Colleges can be admitted to these lectures on payment of a fee.

On Botany (chiefly systematic and physiological.) By Mr. J. W. Hicks, Sidney College. Tuesday, Friday, Saturday, at 12, beginning Friday, April 28.

On Physiology. The Trinity Prælector in Physiology (Dr. M. Foster) will probably give a short course on Embryology at the New Museums, of which notice will be given.

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The Physiological Laboratory will be open for practical instruction in Physiology daily. The lectures will be free to all Members of the University.

An election of a Superintendent of the Museums of Zoology and Comparative Anatomy was held on Tuesday, April 25, at one o'clock in the afternoon. This office was instituted in 1866, and was made tenable for five years; it is in the gift of the members of the electoral roll. The late superintendent, Mr. John Willis Clark, M.A. of Trinity College, was re-elected.

The Syndicate appointed November 17, 1870, "to consider whether any, and if so what, alterations may be made with advantage in the system of University examinations to enable persons who are unacquainted with the Greek language to obtain degrees," have issued an amended report. They recommend the substitution of French and German in place of Greek in the previous examination, at the option of the candidates. Every candidate who selects French and German will have to satisfy the examiners in papers containing passages from French and German authors for translation into English, with plain grammatical questions, and translate passages from English authors into French or German. In addition they will have to answer such questions on the Gospel selected for the Greek Testament subject and on matters collateral thereto as do not require a knowledge of the Greek language. The proposed alteration will come into force at the previous examination in the Lent Term, 1872. It will only affect those persons who proceed to a degree in honours; as a Greek classic the Acts of the Apostles in the original Greek are still retained as subjects in the general examination required of all candidates for the poll degree. A Grace, confirming the report of the Syndicate, will be offered to the Senate to-day.

The Board of Natural Science Studies have issued an amended report, recommending certain alterations in the examination for the Natural Sciences Tripos. They propose to separate the examination into two parts, and to continue it during eight days instead of six as heretofore. They also introduce a *viva voce* examination in addition to that by printed papers. The subjects of examination will be:—1, Chemistry and certain other branches of Physics; 2, Botany, including Vegetable Anatomy and Physiology; 3, Geology and Palæontology; 4, Mineralogy; 5, Comparative Anatomy, Physiology, and Zoology. The questions, exclusive of those which relate to practical work, will be comprised in twelve papers, and be so distributed that each of the papers will contain one or more questions in each of the following branches of science:—1, Chemistry and certain other branches of Physics; 2, Botany, including Vegetable Anatomy and Physiology; 3, Geology and Palæontology; 4, Mineralogy; 5, Comparative Anatomy, Physiology, and Zoology. Some of the questions will refer to objects exhibited at the examination. In the first six papers the questions will be of a more elementary character, and it will be open to the Board of Natural Sciences in any schedules which they may issue to indicate the subjects that shall be suitable for this part of the examination. In the last six papers the questions will take a wider range, yet still, so far as regards those branches for which schedules are issued by the Board of Natural Science Studies, will be confined to subjects indicated in the schedule; each of the last six papers will include a larger number of questions on the several subjects than the first six papers severally contain, and some of the questions will have special reference to the philosophy and history of those subjects. The Board further recommend that the foregoing alterations come into operation at the examination to be held in December, 1872.

EDINBURGH

The half-yearly meeting of the General Council of the University of Edinburgh was held on Tuesday, the Chancellor presiding. A report was given in with reference to the graduation in Arts, and, after some discussion, it was agreed by a majority to represent to the University Court that the degree of M.A. should be remodelled. The report of the committee recommending the establishment of a Chair of Celtic languages and literature was approved. A report was given in proposing that two additional members should be appointed to the Curatorial Court by the University Council. The report was adopted. It was resolved by a majority that the Council should represent to the University Court that it was advisable that the regulations with reference to degrees in law at present in force should be amended to the effect (1) of having two degrees in law attainable by examination, and (2) of not requiring for the lower degree a degree in Arts as a necessary preliminary. Some other business was transacted, after which the meeting separated.

NOTES

A PARAGRAPH has appeared in several papers stating that the venerable Professor of Geology in the University of Cambridge Prof. Sedgwick, purposed shortly vacating the chair. This announcement, we are credibly informed, is, to say the least, premature; and appears to have originated in a paragraph in the Professor's report to the University on the Museum under his charge. The words of this, however, do not necessarily imply more than that he begins to feel the burden of years heavy upon him; and in the University it is not believed that his resignation is imminent. Whether that come soon or late, all who have known how much he has done for the cause of natural science in the University will deeply regret it; and the fine collections in the Woodwardian Museum, amassed in great part during his tenure of the chair, and to no inconsiderable extent at his own expense, will long be a monument not unworthy of a life spent in the pursuit of science and in the service of his University.

THE subject for the Sedgwick prize, to be awarded in 1874, is "The Potton and Wicken phosphatic deposits and their general relation to the strata of Western Europe lying between the Portland beds and the Gault." The prize is open to all graduates who have resided sixty days during the twelve months preceding October 1, 1873. The essays are to be sent to the Registrary on or before October 1, 1873, privately with some motto prefixed, and to be accompanied by a sealed envelope with the same motto on the outside, enclosing a paper containing the name and college of the candidate. The prize was founded in 1865, by some friends of Dr. Adam Sedgwick, to encourage the study of geology. It consists of three years' interest on 500*l.* Scinde Railway Stock, but although subjects were proposed in 1867 and 1870, no essays were sent in.

THE Science and Art Department has issued a circular on the subject of the examinations in Ireland, which are henceforth to be placed on the same footing as those in England.

IN answer to several inquiries from America, we have great pleasure in stating that the report that the eminent astronomer, Leverrier, is reduced to great poverty, is entirely without foundation.

WE regret to record the death of William Wilson, the eminent bryologist, which took place at Warrington on the 3rd of April, in the 71st year of his age. Mr. Wilson is chiefly known as the author of "Bryologia Britannica," the standard work upon British mosses, which was published in 1855, and of which a second edition was in contemplation at the time of his decease. He took a high place as an authority upon mosses among continental botanists, and was in intimate communication with them. In the earlier portion of his life he devoted much attention to

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